

**Patent claims**

1. Process for producing foamable crosslinked polymers, characterized in that a mixture composed  
5 of
- (A) 30-70 parts by weight of methacrylic acid,  
30-60 parts by weight of methacrylonitrile,  
0-30 parts by weight of other monomers having  
10 vinyl unsaturation,
- (B) 0.01-15 parts by weight of tert-butyl meth-  
acrylate and/or tert-butyl acrylate,
- 15 (C) 0.01-10 parts by weight of blowing agent,
- (D) 0.01-10 parts by weight of crosslinking agent,
- (E) 0.01 to 2 parts by weight of polymerization  
20 initiators and
- (F) 0 to 20 parts by weight of conventional  
additives
- 25 is polymerized in bulk to give a sheet which,  
where appropriate, is heat-conditioned and then is  
foamed at temperatures of from 150 to 250°C.
2. Process for producing foamable crosslinked polymers  
30 according to Claim 1, characterized in that 0.01-  
4.99 parts by weight of tert-butyl methacrylate  
and/or tert-butyl acrylate are used.
3. Foamable crosslinked polymer composed of  
35
- (A) 30-70 parts by weight of methacrylic acid,  
30-60 parts by weight of methacrylonitrile,

0-30 parts by weight of other monomers having vinyl unsaturation,

(B) 0.01-15 parts by weight of tert-butyl methacrylate and/or tert-butyl acrylate,

5

(C) 0.01-10 parts by weight of blowing agent,

(D) 0.01-10 parts by weight of crosslinking agent,

10

(E) 0.01 to 2 parts by weight of polymerization initiators and

(F) 0 to 20 parts by weight of conventional additives.

15

4. Foamable crosslinked polymer according to Claim 3, characterized in that 0.01-4.99 parts by weight of tert-butyl methacrylate and/or tert-butyl acrylate are used.

20

5. Poly(meth)acrylimide foam, characterized in that it is obtained via foaming of polymer according to Claim 1 or 2.

25

6. Laminated material comprising a layer of a poly(meth)acrylimide foam according to Claim 5.

30

7. Motor vehicle, rail vehicle, watercraft, aircraft, spacecraft, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.

35

8. Machine component, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.

9. Antenna, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.

10. X-ray table, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.
- 5 11. Loudspeaker, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.
- 10 12. Pipe, characterized in that it is composed entirely or to some extent of a poly(meth)acrylimide foam according to Claim 5.